

DESCRIPTION

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| Species Reactivity | Human |
| Specificity | Detects a synthetic peptide specific for human SOX14 around amino acid 190 in Direct ELISA. |
| Source | Monoclonal Mouse IgG _{2A} Clone # 1100814 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Synthetic Peptide Accession # O95416 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. |

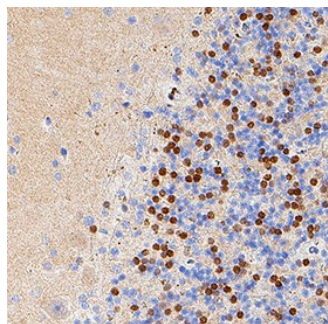
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

| | Recommended Concentration | Sample |
|-----------------------------|----------------------------------|--|
| Immunohistochemistry | 3-25 µg/mL | Immersion fixed paraffin-embedded sections of human Cerebellum |

DATA

Immunohistochemistry



Detection of SOX14 in Human Cerebellum. SOX14 was detected in immersion fixed paraffin-embedded sections of human cerebellum using Mouse Anti-Human SOX14 Monoclonal Antibody (Catalog # MAB11693) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001) or the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the nucleus. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

PREPARATION AND STORAGE

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|--------------------------------|---|
| Reconstitution | Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration. |
| Shipping | Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below. |
| Stability & Storage | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

SOX14 is a 36 kDa protein that belongs to the SOX (SRY-related HMG-box) family of transcription factors. It plays a crucial role in the development and differentiation of the central nervous system and is critically involved in the regulation of embryogenesis, neural differentiation, and the development of specific neuronal populations. Aberrant expression or mutations of SOX14 have been associated with developmental disorders, including speech and cognitive impairments, as well as various cancers such as medulloblastoma and glioblastoma where it impacts cell proliferation, migration, and survival pathways. SOX14 is also essential for proper neural crest cell development and is implicated in neural tube defects when dysregulated. This makes it an important biomarker for neurological development and related pathologies.

References:

1. Yao L, Zhang J, Xing B, Chen F, Zhang G, Teng Q, Jin J. SOX14 promotes glioma cell proliferation and invasion by suppressing p53 signaling. *Oncotarget*. 2018 Jun 12;**9**(45):27646-27657. doi: 10.18632/oncotarget.25542. PMID: 29983854; PMCID: PMC6029639.
2. Smit R, Louw S, Stevens J, Kay V. SOX14 is critical for neural crest cell differentiation and neural tube closure in murine embryonic development. *J Neurosci Res*. 2021 May;**99**(5):1131-1140. doi: 10.1002/jnr.24759. PMID: 33577345; PMCID: PMC8489940.